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ABSTRACT

This study examined the impediments a new private secular school with students working at above grade level encountered in it implementation of a project-based curriculum within the context of constructivist theory. Examined were the intended or formal curriculum, its implementation, and effects on the implementation. Data were gathered by observing classrooms, attending board and curriculum committee meetings, and interviewing students, teachers, and parents. The curriculum of the school promised learning that was real, contextual, and engaging. One impediment to forming the curriculum was differing perceptions between parents and board members about its form. Parents also showed concern over differentiation in instruction and wanted their children to receive challenging work. Also, parents who wanted specific subjects emphasized were not realizing the intended goals of integrated learning activities. Systems of structure were imposed on the curriculum, including structure in the physical environment, scheduling of content, time use, and teacher responsibilities. With an open curriculum, the teachers had a greater influence on structure than when it is set by outside goals or standards. The largest discrepancy between intended and implemented curriculum was the dichotomy between project-based, integrated curriculum and academic or subject-based curriculum. An appendix of research records is included. (Contains 13 references.) (JPT)

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Impediments to a Project-Based and Integrated Curriculum

A Qualitative Study of Curriculum Reform

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Running Head: IMPEDIMENTS

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Abstract

Impediments to a Project-Based and Integrated Curriculum

A Qualitative Study of Curriculum Reform

This instrumental case study of a new private school investigated the implementation of a curriculum designed to incorporate principles of curriculum reform within the context of constructivist theory and to challenge "above-grade level" learners. Data from observations, interviews, and documents revealed issues which impeded the implementation of the intended project-based and integrated curriculum. Methods of differentiating instruction, imposed structure systems, and the amount of teacher influence will be discussed as factors which impeded the implementation of the intended curriculum.

Reform Without Change

Imagine the luxury of an empty building, no prior history, involved and committed parents, a large pool of qualified potential teachers, students working above grade-level and the opportunity to put theory into practice. This was the setting and the circumstances for my study. I was compelled to investigate what happens when the slate appears clean and one embarks on implementing the "ideal" curriculum for learners with high abilities.

This paper describes one set of findings that emerged from this instrumental case study (Hertzog, 1993) of West Oak School, a private secular school, during its first year of operation. At the time of the study, the school employed two full-time teachers and had a total of fourteen students in first, second, or third grade.

The founders of the school embraced the constructivist approach and advertised a project-based curriculum with emphasis on creativity, problem solving, critical thinking, and interdisciplinary units. There are similarities between constructivist based learning and gifted education. The constructivist theory suggests "that learning is an active process in which prior knowledge, interests, and self-motivated purposes play major roles" (Ganopole, 1989 p. 82). In constructivist theory, learning is embedded in activity that is within a social, cultural, and physical context (Brown, Collins, & Duguid, 1989). According to Ganopole, "constructivist-inspired programs tend to be student centered, in contrast with traditional teacher- or text-driven programs. Constructivist programs provide a more flexible, open approach to learning, permit greater freedom of choice, encourage inquiry, decision making, and self directed

learning" (1989, p. 82). Those same characteristics are described as elements that are essential for learning environments for "gifted learners" (Kaplan, 1974, Maker, 1982; Passow 1982; Renzulli, 1977; Van Tassel-Baska, 1992). It is for those reasons that the constructivist approach has been suggested as a means of educating "gifted learners" (Ganopole, 1989).

The school provided an ideal opportunity to study principles of curriculum reform without the complexities in implementation brought out by impediments to change itself. Curriculum reform without change provided a way to look at a implementing curriculum in its purist form. Curriculum planners and developers at West Oak were not working within an existing school system. Theoretically, they were not biased against change. They were not working within the "conservative system" as defined by Fullan, "The way that teachers are trained, the way that schools are organized, the way the educational hierarchy operates, and the way that education is treated by political decision-makers results in a system that is more likely to retain the status quo than to change" (Fullan, 1993, p. 3). The founders of West Oak had a vision for their children. I was compelled to see how their ideals were implemented. Therefore the purpose of the study was to gain a better understanding of how the intended curriculum was operationalized for a population of learners who were identified as working above grade level. I focused my study on the formal and operational curriculum (Goodlad, et al., 1979).

On a continuum from the descriptive to the interpretive I questioned:

1. What was the intended (formal) curriculum?
2. How was the curriculum implemented (operationalized)?

3. What impacted the implementation of the curriculum?

Several issues emerged by focusing on these questions. This paper will address the intent to operationalize both a project-based and integrative curriculum.

Research Procedures

Data Collection

Most of my data were gathered by observing in the classroom, attending Board and curriculum committee meetings, and interviewing students, teachers, and parents. To address the first question, "What is the intended (formal) curriculum," I reviewed documents and gathered multiple perspectives of this question through interviews with teachers and the chairperson of the Curriculum Committee. Electronic mail messages were particularly insightful in gathering multiple perspectives of the intended curriculum. To address the second and third questions, "How is the intended curriculum implemented?" and "What impacts the implementation of the curriculum," I primarily used information collected through observations and interviews. I triangulated these data by reviewing over 145 pages of electronic mail messages, minutes from four Board meetings, pictures that I took of the classroom, and other documentation of events. A complete list of my data sources as well as the approximate hours "in the field" are included in Appendix A.

Observations and Interviews. Observations of the school occurred over the course of four months, January - April, 1993. Observations also included joining children on field trips and participating in various other activities related to their units of study.

Interviews were semi-structured and designed to investigate the intentions of the teachers, parents, and students related to their activities. Many interviews with the students were informal, yet specific, asking them to explain their feelings or reasons for pursuing their activities. All of the interviews were tape recorded.

Documents. A "Handbook for Families," an advertising brochure, a scrapbook, and minutes of all committee and board meetings were available for triangulation. In addition, I reviewed electronic mail messages which relate specifically to the intentions of the committee members in regard to curriculum. I also video-taped "major events" (i.e., first day of school, Open House, Science Fair, special products, etc.).

Data Analysis

Coding data. The data were coded in categories related to themes which emerged from the field notes. These categories included the following: similar strategies advocated for gifted students, integration of projects into curriculum, and factors that influenced curriculum implementation, the use of integrated or thematic units, independent projects, student choices, parental involvement, learning environment, flexibility in the use of time and space, community resources, extending the learning environment, content and quality of student products, and use of materials.

Enhancing Trustworthiness

Several steps were taken to enhance the credibility of this study. All observations and interviews were documented, including the time, place, and duration of the data collection experience. An interim report was given to the teachers and selected faculty members. Selected persons involved read a first

draft of this study, dated May 11, 1993. Their feedback was incorporated into the final version of the report in the section entitled, "Member Checks." Triangulation of multiple data sources also served to enhance the trustworthiness of the final report. Although the actual observations took place in a period of four months, I was actively involved with the school since its inception. My involvement constituted prolonged engagement, another strategy for establishing credibility.

The Intended Curriculum

> " A place where students, teachers, and parents can be involved in an integrated learning environment. Where students can pursue the acquisition of skills in a way that is largely self directed (this does not mean by themselves) and that involves the use of those skills in the pursuit of information that is of intense interest to the students themselves. Whenever possible the work should involve no boundaries between the traditional "subject" areas, but should as in most "real life work" integrate all areas in the same project."
>
> (Parent, 1992)

Parents who founded the school were in agreement that they wanted something different from what was being offered in the public school system. Their intentions called for project-based, hands-on, minds-on experiences. Elements of curriculum reform included the emphasis on making learning real, contextual, and engaging. The brochure advertising the school stated that West Oak "offers all students . . .

- "Hands-on" science
- Math focused on problem solving
- Literature-based language arts
- Computers
- French
- Music
- Art
- Physical education

- Basic skills through interdisciplinary projects."

Goals for students were written on the brochure. "Students in the [West Oak School] curriculum take an active role in their learning as they . . .

- Master basic skills through a variety of multidisciplinary activities and projects
- Exercise critical thinking and a creative, problem-solving approach
- Collaborate on special projects using community resources in various disciplines
- Share in monitoring their own progress thorough a portfolio of representative work samples
- Develop leadership skills and a sense of personal and community responsibility
- Undertake projects that address real-life problems
- Strive to fulfill their academic and creative potential."

However, parents discussed how their interpretations of the intended curriculum differed. Parents' and teachers' differing perceptions of these goals and how to accomplish them, the systems of structure imposed in the implementation of the curriculum, and the characteristics and of the teachers were forces that shaped the curriculum away from the intended goals.

Factors Impeding Implementation

> "Imagine two people who want to see the schools change and another two who want to see them remain the same. Now ask which pair is more likely to be at odds over the substance and details of what they want to have happen."
> (Jackson, 1992, p. 14)

I. Differing Perceptions

Parents and Board Members perceptions about the curriculum. The parents and board members sometimes disagreed about whether specific subject areas such as science and math should be the emphasis of the school or whether projects and creative endeavors should be the focus of the students' days. These

differing opinions left the teachers with ambiguity about what they should be doing and stressing. One electronic mail message was sent to the board members after a board meeting to clarify his feelings about the curriculum,

> Clearly the project -based curriculum is one distinguishing feature. However, taking the project-based curriculum format as a given, an even more fundamental issue to me is the matter of relative emphasis. Mary and Pam essentially argued that the existing external perception of many is that [West Oak School] emphasizes social sciences, fine arts, and puppetry. I personally am quite troubled if this is in fact the general perception of outsiders. My reading of the situation at [West Oak] is quite different. I personally regard the major strength of the existing curriculum to be in the area of science--thanks to the considerable efforts of the dedicated parents who have taught in the school. However, I believe that we now need to work on developing the math and computer areas in concert with science. Based on the discussion last night and extrapolating given the backgrounds of the Board members and school parents, it would seem that the latter orientation is really much more consistent with the values of existing Board Members.

The concern expressed was whether or not the strengths and characteristics of the teachers had somehow changed the intended curriculum. This Board member raised the question, was there an emphasis on math and science as intended? Discussion about where the emphasis should be placed occurred "unofficially" throughout the year.

Teachers' perceptions about the curriculum. One teacher said the following:

> Major focus is to make the curriculum relate to real situations and if we're [studying] some science theme or city unit then we try to relate other areas to that - the math, the reading, so we like to try to integrate things and not do things just for the sake of doing things but make relate it to real life and this has a purpose and this is why it is important for me to learn and to get the kids to think about things instead of just well memorizing something having critical thinking--have them be creative and have their input in a lot of things to make it meaningful.

The head teacher talked about the importance of student initiated projects with conventions of content and discipline areas integrated into their ideas. She described how she facilitated their learning by asking questions and "taking them at their word." She also referred to the role of the teacher as the facilitator and discussed how much guidance she should give to the students.

Perceptions about differentiation of instruction: Acceleration or Enrichment. Because the school was designed to attract students working on or above grade level, parents expected that their children would be bored with "grade level" activities. Parents expressed frequently the desire for their children to be challenged. The teacher, Jennifer, confirmed what I had heard in a Staffing Committee meeting. She was aware that several parents felt their children were not getting enough challenging (above grade level) work. She perceived that this was a big concern of many parents. She felt that she had to prove to parents that there was differentiation of instruction. It was easier to show differentiation in traditional subject matter activities such as using different spelling lists for different children. Proving that her instructional planning represented different ability levels was more difficult. She explained,

> In many ways, the problem is that when I think of an idea, I think well, it can be done at all different levels so that if you're having writing, kids can write at all different levels. . .Take Mary [child's mother] who's very concerned about fine sophisticated products and is Leslie being challenged enough, so I had thought of this French project originally oh how for Heather and Leslie come and do stuff that they bring in at French time, then I thought well, this is a good idea. Kids can do it all levels, so there instead of sending it just home with the third graders, I wound up sending it home to everybody and that's frequently what happens. I'll think this is some. . wait a minute, it can be done with other kids, so it needn't be that they have actually separate things to do.

I asked her if she was talking about open-ended activities. She replied that she was and that they can be done at all levels. I continued to ask her about differentiation strategies. She continued to explain,

> Well, we have, it's just different level of discussion that you have. Well, I could just, well with the older kids, they of course have their own books. Well, what I did would be as an example of differentiation. At the beginning of the year the first graders had very little free choice in reading. I was setting it out and they were reading each day out loud with me individually or in pairs, except for Dennis. Well, Dennis is a much more advanced reader so with him, I'd have him come and read a passage and I'd mostly spend the time talking to him about what he was reading.

I wondered if parents understood the concept of open-ended activities and the freedom to produce something at a child's "own" level. I wondered if parents could understand differences in levels of discussion. Where were the children being challenged, how were they being challenged, and could evidence prove that they were being challenged?

Parents seemed to have expectations for acceleration, higher level content area, not enrichment, or content at a deeper level. To satisfy parent expectations, teachers tried to challenge the students by including ways to work above grade level. Rather than doing this through their units or projects, they specifically worked to make modifications in core content areas such as reading, language, and math. They did not try to prove that the projects undertaken by students represented complex, sophisticated, or advanced level work. To introduce advanced reading, Jennifer initiated the Jr. Great Books Program. This program has been advocated for teaching reading to children with high reading abilities. It encourages critical thinking and discussion skills.

To some parents, math was a major area of concern. Kathy, the math teacher, emphasized problem solving and challenging math activities by using materials from Marilyn Burns. I questioned the math teacher about how she differentiated instruction for children of varying abilities.

Kathy: We have 3 separate groups that we rotate through writing, reading, and math. The first graders are together. Five second graders are together. Three, then the third group is three second graders and the two third graders. And within those groups, we're able to split them up as needed for individual needs and my that last math group with the two third graders, I'll often have separate activities say you two will work on this and we'll do this. There's one child, Leslie, who's very advanced in math compared to the others so unless it's something like measuring where they can apply their skills and individualize on their own, I will separately have her do something from the book.

Nancy: So, how do you know what their potential is, or what their level is?

Kathy: I gave a general math assessment to get an idea of what kind of arithmetic and skills they had. We do problem solving together and just observing that lets me see who catches on to what patterns more easily, things like that.

Kathy used observation as a major tool for assessing strengths and weaknesses in math. Each class contained elements of problem solving. A large chart on the wall labeled "Problem-Solving Strategies" reminded students of the importance of problem solving. To introduce multiplication, Kathy asked, "How many chopsticks would you need to eat at this table?" The children found the answer in various ways and she listed their methods of counting on the board. When she introduced the concept of congruent shapes, the children made a tangram puzzle where various shapes are congruent to each other. The children were asked to put the puzzle back into its original shape. This was extremely

challenging for the group that I observed. Problem solving involved thinking, discussing, and sometimes arriving at verbal solutions. Because these were not pencil and paper activities, they were difficult for parents to see. While the focus of problem solving represented elements of curricular reform, she grouped by ability and individualized instruction for a child whose skills were significantly higher than the rest of the group. Parents could sense a feeling of differentiation if children were working in ability groups.

Differentiation strategies which are dominant in the field of gifted education and which I observed and documented included grouping students by abilities, providing open-ended activities where students could respond at their own level, emphasizing problem solving, discussing questions about literature involving higher levels of thinking, and making content adjustments such as the number and difficulty of spelling words. It was not evident that differentiation occurred through their projects.

In summary, the result of the differing perceptions about the curriculum may have created an emphasis on more traditional subject domains than originally intended. Parents who wanted science and math emphasized more than language arts were not realizing the intended goals of integrated learning activities. Parents' burning desire to challenge their children may have influenced the teachers' choices to differentiate instruction in ways that are more traditionally accepted and can be observed such as providing different spelling lists, or grouping by ability (as opposed to grouping by interest on a project).

II. Imposing Systems of Structure

Systems of structure were imposed into the curriculum. Structure was imposed in the physical environment, in the scheduling of content, in the use of time, and in the responsibilities of the teachers.

Structuring the physical environment. The school in its first year rented space in a Strip Mall. This one large space was separated at will by the teachers before teaching actually begun in August of 1992. Surprisingly, the major partitions never budged throughout the first year. In the "back" there was a space sectioned with tables and two desks to be a teacher's (or parent's) work corner. The other large area toward the front which faced the parking lot of the mall, was sectioned off by dividers, tables, storage racks, and book cases. As one enters the front door there is a library book divider that partitioned off the library corner. On the right is a sign hanging that says "Science Corner." Areas about the room were labeled: Library Corner, Science Corner, Writing Area, Math Area, Physical Education, Computers, Art, and Music.

Structuring content. The teachers structured the content of the curriculum by grouping students for specific subject areas in designated time blocks. In the morning students rotated between math, writing, and reading groups. In the afternoons they generally rotated between music, French, science, art, and project time periods. All of the children were together for what the teachers termed "Whole Group" time which occurred for about 20 minutes in the morning and 15 minutes in the afternoon just before they left for home. In order to allow more time for projects and time for students to explore their own interests, they began

their day with what the teachers called, "Option Time." This was designated as one hour in which students could choose something that they wanted to do.

Projects mostly arose out of the units that were presented. For the science unit on animals, each student chose an animal to study. For the unit on astronomy, each child chose a planet in the Fall and a constellation in the Spring. With the anatomy unit, they chose a part of the body to study. In my interview with Kyle, I asked her, "What is involved in doing a project at your school?"

Kyle: Well, we have to do a lot of research.
Nancy: OK, is that the first step?
Kyle: Yeah,
Nancy: OK
Kyle: Then I guess we write a report and share it with the class.
Nancy: And when do you share it?
Kyle: After it's all edited and all the mistakes are done.

There were some student-initiated projects. One child created her own dramatic version of Cinderella and involved most of the other children in its production. Another child talked to me about her Troll House, and another one told me about his own computer that he created. The teachers would have liked to have seen more projects initiated by students during Option Time. One teacher said in her interview in response to my question about how children master basic skills through multidisciplinary activities and projects,

> That's coming. I don't think we've reached that yet to satisfy that goal completely that the skills come through the projects. We're still figuring out how to do that. They do, it seems to me that it might be at the moment more using their skills within the projects rather than learning their skills through them.

The units presented are not obviously integrated into other areas of their learning. They seemed to stand alone as "units." Units seemed to be taught at a separate time of the day and worked on throughout the day when students were not actively engaged in a lesson of another subject domain. For example, the units on presidency and cities tended to emphasize the social studies areas. According to the summary of the curriculum given to the Internal Revenue Service as a document to achieve tax exempt status, social studies was described as "interdisciplinary units that include aspects of geography, anthropology, history, politics, sociology, government, and economics." Science units culminated with science projects (i.e., their research on animals, planets, parts of the body). Integrating art into the human anatomy unit was a conscious attempt to integrate two disciplines: science and art. Yet, when I talked with the children, they had the notion that they did art on Fridays when the art specialist came and science when the parent leading Project SEARCH arrived. Were art and science really integrated?

Computers, on the other hand, were strongly integrated into the daily lives of these children. Although time was allotted for children to work individually on computers, the computers were also available across time and subject dimensions. I asked one boy if he would be willing to share his story with me. He looked like he didn't know where it was so I asked him if it was in the room somewhere. He said, "I think I can open it up and copy it." Each child had his or her own disk with his or her work on it. Students used the computers for research for their projects because they had the encyclopedia on CD ROM. For the unit on Cities, they created their own city with the computer simulation, SimCity. They used the

computers mostly for word processing when they typed their stories or their newsletters. Computers were the exception. They were integrated as a necessary teaching and learning tool in this environment.

Structuring teacher responsibilities. Kathy taught all of the math groups, and Jennifer taught all of the language arts activities, including reading, writing, and spelling. The teachers alternated being the leader for Whole Group times. Jennifer taught French and Kathy taught music lessons. For music, the children were grouped with first graders in one group, and second and third graders in the other one. At West Oak, the teachers themselves represent ed strong boundary lines between subject areas: There are specialists to represent the art and science domains. Children may perceive these barriers as they proceed with their own work and may be less likely to combine disciplines.

Structuring Time. Time is perhaps a teacher's most precious commodity. The teachers' use of time and the way they structured their day was a major concern of many parents on the Curriculum Committee. The committee suggested that the teachers document how much time they allotted for each subject area, including cross-disciplinary subjects such as projects. Computer advocates on the committee were concerned about computers being available throughout the majority of the day. After being given a schedule by the teachers, one curriculum committee member calculated the hours and sent this electronic mail message:

> Hours per Week
>
> Reading 3 hrs.
> Writing 3 hrs.
> Math 3 hrs.

> Story 50 min.
> Music 1 hr.
> Project/Science 1.33 hrs. (Monday and Thursday)
> French 1 hr.
> PE 1 hr.
> Art 2 hrs. (taken from Art Specialist proposal)
> Whole Group 3 hrs.
>
> The Friday schedule seemed unclear to me. Were the children going to do projects the entire morning and Art instruction the entire afternoon not counting story and whole group times?

The head teacher sent an electronic message back to her to clarify the Friday schedule and some adjustments that she had made. The Curriculum Committee member responded through the electronic mail lines. . .

> Jennifer clarified Fridays schedule (see below) so I have adjusted the times of my previous message.
>
> Reading, Writing, and Math times increase from 3 to 3 3/4 per week for the students who do not go to the library and 3+? hours for the students who go to the library.
>
> Options (project work, computer work, etc.) total 5 hours per week. It is still not clear to me how many hours per week each child gets to use the computers. If computers are used during ALL available times (Option, Recess, Projects, and Writing), it would allow a total of 21 2/3 hrs. with kids on BOTH computers. This would average out to 1 3/5 hours per week per child - but this estimation is based on there ALWAYS being 2 children on each of the computers at the above mentioned times. From the last teacher summary sent home on Friday, it looks like each child is getting 30 minutes of scheduled time at the computer, but I am not sure if the 30 minutes happens during option time or some other time.

To the teachers the message was clear -- they had to be concerned about the amount of time that was spent on various subjects. In particular, they had to focus their attention on the time spent on computers. And although the goal was to actualize an integrated, project-based curriculum, there were still members on

the committee who were interested in seeing major discipline areas taught within the context of their own subject domains.

I questioned whether the calculation of time was a meaningful one in this context. The math groups had no more than six children in them. Could 30 minutes with a small group every day be compared to 30 minutes with a larger group in any other setting? Was time allotment really the issue here? In a Board of Directors meeting on April 15th, the parent who had arranged to have Project SEARCH brought to the school said that she felt that the students at West Oak were getting four times more science than most children in public schools. It was my opinion that she was referring to the kinds of and quality of experiences that the children were receiving in science, not only the number of minutes allocated to that subject domain.

What attracted my attention even more than the allotment of time at the micro-level of minutes per subject per week, was the concept of time at the macro-level --the effect of the teachers' use of time overall. What contributed to the teacher's feeling that there was too much "all in one year!" She was referring to parents wanting to do all of their special projects in the first year of the school. I began to feel that it was not just happening all in one year, I wondered if it was "too much" going on "all at the same time!"

At West Oak, I felt a particular sense of rush, and "busyness." The head teacher began each newsletter with a brief sentence about how busy or how hectic things seemed to be.

Weekly Letters

1/29/93	"As always our week has been filled with a variety of events and activities."
2/5/93	"As always we've been very busy both continuing old projects and introducing new ones."
2/11/93	"This week, as usual, has been filled with activity."
2/26/93	"This week our attendance is up again, and we're back to our usual busy schedule."
3/5/93	"As always, this week has been filled with all sorts of activity."
3/19/93	"We're into our usual hectic pace again after what some may feel was too short a break."
4/2/93	"In addition to our full schedule, this week has included two guests and a visit to the World Heritage Museum."
4/16/93	"This has been an unusually busy week, even for us!

Many things probably accounted for that hurried, hectic feeling. Within each activity, the children had many things to do. For example, every morning they had a group meeting. Listed on the board are the topics that they would cover during the meeting. Frequent visits allowed me to see the basic structure of the meeting:

1. Library books - Students return or sign up to take library books home.
2. Homework - Children turn in homework
3. Current Events - Share current events in newspaper articles brought from home.
4. Class News - Group dictated story with students taking turns contributing something about themselves.

On certain days, more things were included to discuss in the morning meeting time:

3/17/93

1. Books, attendance, homework
2. Visitors
3. Puppet Shows
4. Play and Costumes
5. City Planning
6. Current Events
7. Class News

4/26/93

1. Books, attendance, homework
2. Volunteers - signs
3. Thank you letter (Corley)
4. Computer Sign-Up
5. Option Time
6. Art post cards
7. Writing Center Bulletin Board
8. Current Events
9. Class News

During my observation on April 26th, the teacher made reference to time frequently during group time. She was extremely pleased with both herself and the group that the thank you letter did not take too long. She hurried them during the Class News to make up for the time that they had spent doing the other items on the list. In the afternoon whole group period, the teacher signed the children up for the activities that they would pursue in Option Time on the following day. One day that I observed this, they timed themselves with a stopwatch to see how quickly they could get this task completed.

On the blackboard in the math corner, there were typically three or four things listed for the students to do during math time. The same was true with spelling lessons that I observed on two Wednesdays. First they studied their spelling words while the teacher instructed another group on how to get started with something else. Then the teacher came over to give them a spelling test. After grading the tests, she gave them new words with a specific rule to learn. They completed a worksheet that applied the new rule, and then the students were told they could write anything that they wanted. It took a couple of minutes for the children to put their spelling papers in their "cubbies," come back to the writing area, get out their writing folders, and begin to write their stories. Exactly

three minutes after they started writing, the teacher gave the warning that it was time to start cleaning up and change groups. The children let out a great big, "Oh,..." in disappointment of having to clean up what they just got out. In an interview with Kevin, I asked him, "Do you feel that you get enough time to do things that you start? He replied,

Kevin: Um, no. I don't. Usually people write long stories in our group and it would take about 3 weeks to get one story about this thick done because of the short time we have in writing and reading.

Nancy: So when do you finish those?

Kevin: Well over there we have some stories from kids that we wrote. They get them they start on them about May 4th and work on them until about May 20th, 16th,

Nancy: So they eventually get done?

Kevin: Yeah,

On my last observation, the frustration of having so many things to do in one structured time block came to me in this single incident.

Monday, April 26
Just after the morning recess.
I am sitting with the head teacher and ten of the children on the floor in the large group instruction area. She sends five of those children over to the science area to read Jr. Great books with a student leader. To the other five children she announces that it is Monday, a "free writing day". They say "yeah!" and are visibly excited about this. Then she begins to talk to the children about editing and she hands three children back their thank you letters to redo. One of the children asks, "Where's mine?" Jennifer answers, "Yours is fine. You don't need to do anything." She asks each child what he or she will do when he or she is finished redoing the thank you letter. Sally answers, "The Girl in the Land of the Lost." Betty answers, "How animals. . ." The teacher asks her if she can finish today. Betty says maybe. Then she asks Kevin what he will do. He says, "All I Can Do is Pray," the title of his story. Jennifer asks him, "When can I have a rough draft?" He answers, "about 16 months." She tells him to

> have the rough draft tomorrow. Then she asks Susan about her "animal thing." Susan says it will take the whole year. After much negotiation between the two, Susan agrees that she might be able to turn in a rough draft by next Monday. As Susan gets up to go do her writing, Jennifer questions her, "Do you have any newsletter articles?" Susan replies, "Uh huh." Jennifer tells her that there is definitely a deadline for newsletter articles. Susan is instructed to do the newsletter article first. Susan worked first with the teacher to talk through the newsletter article, then wrote the article at a separate table by herself, and by the time she went over to the writing area, it was time for lunch. Another writing day went by where she did not have a chance to work on "that animal thing."

Was free writing time really for free writing or was it a time to do free writing only when everything else on the teacher's agenda had been accomplished? Time given to a task implies its relative importance. Time for projects, and integrating content and disciplines into thematic units was not a priority.

In photographs that I have taken of the classroom, I consistently noticed on their Option Time Sign Up Charts that more children had work in the "To Complete" category than the other two categories which were titled, "Projects" and "Activities." Clearly, the fact that children must complete work before doing projects and other choice activities during Option Time limits students' time to pursue in-depth projects.

In summary, imposed structures worked to segregate learning experiences rather than integrate them. Defining teachers roles and responsibilities, scheduling students into subject time blocks and rotating them physically through the separate centers of the room enforced boundaries between subject domains. How might time have been structured differently to allow for in-depth projects or integrated learning activities? More extended time periods where students work

on projects and have the luxury to complete a task before moving on to a new topic would facilitate a project-based integrated curriculum.

III. Teachers' Influence

When the curriculum is an empty template, the teachers have a greater influence than when it is set in state or district goals and mandates. In this setting, teachers were allowed the freedom to interpret the goals of the curriculum and plan their own schedule for implementing the goals. The background and characteristics of the teachers were significant forces that shaped the operational curriculum. Jennifer's orientation toward aesthetics may have led to the formalization of art instruction. Her primary specialty area of puppetry was integrated into the language arts curriculum--not just for those students who demonstrated an interest in having a puppet show, but for all students as a means to understanding fairy tales. Her experience with creative dramatics helped her guide the students to create their own "Cinderella" play as she led them through the "conventions of drama." Were students with other interests such as more scientific or mathematical investigations receiving the same guidance in their endeavors? In a curriculum such as the one at West Oak, where teachers may create their own units, and where they take on the role of facilitators for students creating their own projects, the teacher's strengths, interests, and teaching styles may be more influential on the operational curriculum than in a setting which is dictated by textbooks and grade level behavioral objectives.

Discussion

West Oak, initially created by a group of parents with different ideas to better their children's' education, incorporated many principles of curriculum

reform. Striving to make learning real, contextual, and challenging, teachers implemented timely thematic units, hands-on experiences, projects which reflected students' interests, and strategies of differentiated instruction to provide challenges. Probably the biggest discrepancy between the intended and the operational curriculum at West Oak was the dichotomy between a project-based and integrated curriculum on the one hand, and one in which academic subjects and skills were covered on the other hand. Many things could be attributed to this discrepancy. Some parents expressed different ideas about what they wanted to see happen with projects and units. Teachers were aware that they had not achieved the goal of mastering basic skills through projects. They also felt frustrated that more students had not initiated their own projects. Was it possible to actualize hands-on science, problem-solving mathematics, French, music, art, physical education, literature, and interdisciplinary projects and still be student-centered and project-based? Could teachers have scheduled their day differently to facilitate integration and interdisciplinary projects?

As I observed more and more topics for discussion added to Whole Group time, I questioned whether or not all of those activities were essential to include at each session. Was it not possible to give up some agenda items to include other items? Why did the teachers feel that it was necessary to only add on to their agenda without giving something up once in a while? What would have happened if they had "given up" the Class News to write a thank you note without hurrying? This notion of giving certain things up to make certain other things work permeated my thoughts as I concentrated on three central issues: challenge, time, and integration.

Parents may have to "give up" some of their concrete evidence of providing challenging experiences to their children. Not all challenges can be captured on advanced level worksheets. Dialogue between students such as that exhibited during problem solving activities can be effective means of challenging students.

Teachers may have to "give up" structure if they want to encourage student-initiated projects that cross discipline areas. If projects are to be interdisciplinary, they must be offered and guided in ways other than as part of a particular science or social studies unit. Teachers, as well as the activities which they provide, must represent weaker boundaries between subject areas in order to actualize an "integrated curriculum."

The opportunity to begin a new school and to implement reform without a prior history for the "right way" to do things would seem for some to be an educator's ultimate dream. What surfaced in this study was the notion that there would always be strong factors which impact the curriculum, the teacher, and the students. This quotation from Cohen and Spillane (1992) describes vividly what I saw "Most schemes for fundamental change present a paradox. They offer appealing visions of a new order but therefore also contain a devastating critique of existing realities" (p. 35). Whether the pressure to do certain things came from administrative policies, or parental pressure--the shaping forces were there. The forces manifested themselves in traditional ways: separate subject domains, separate time periods, separate areas of the room and separate teaching responsibilities.

The teacher became part of a developing curriculum--her preferences, her strengths, her skills--all became meshed into the activities that the students did. Just as "Gene Frielander puts naturalist, patriotic, historical, and geographic twists on reading assignments," (Stake, Bresler, & Mabry, 1991, p. 258) so did Jennifer integrate the conventions of puppetry, the processes of writing, and the importance of language arts into her curriculum. As much as the intended curriculum called for projects and integration, conventions of subject matter, parental expectations, and traditional forms of assessment may have impeded the implementation of such an approach.

Summary

There were many things which seemed to compete with the idea of a project-based and integrated curriculum. Differing perceptions of the intended curriculum and of the way differentiation should occur contributed to the teacher's emphasis on teaching in more traditional subject domains. The arrangement of the learning environment where students tended to write in the writing area, sing or play instruments in the music area, and do math in the math area contributed to separating the subjects, making integration of content domains more difficult to see.

The struggle to be both project-based and integrative clearly demonstrated the necessity to break "traditional" conventions of education. Integrating subject domains may require not giving specific time periods to separate subjects, not labeling certain areas of the room, and not assigning projects in specific subject domains such as science or social studies. Teachers should also represent weak boundary lines with knowledge across content areas.

Time was a significant factor in shaping the curriculum. An over structured use of time where too many things were expected to occur at one time limited time for in-depth studies of a particular topic. Projects may not have been developed as intended.

Finally, parents' perceptions of the intended curriculum and their own children impacted the operational curriculum. Parents saw the characteristics of their children similar to characteristics of children in a gifted program in a public school. Thus, the perceived characteristics of the children may have been the driving force behind what I saw as a big issue: Could a project-based curriculum be challenging enough for their children? Would an integrated curriculum conflict with performance on standardized tests of traditional subject domains?

Implementing elements of curriculum reform such as a project-based and integrated curriculum is difficult to realize even in circumstances, where there is no status quo to maintain. The barriers to reform are in this case extended out of the traditional school setting to the expectations of the parents, and the basic needs of individuals to form structure and boundaries where there seemingly are none. Maintaining challenge for students with high abilities was not, according to the parents of students at West Oak, operationalized by applying constructivist theories to the instructional model. Although it has been suggested that constructivist based education can meet the needs of learners with high abilities, (Ganapole, 1989), the issue of maintaining challenge appears to be more complex than implementing curriculum reform. Finally, if the curriculum had been implemented as intended, would students have been challenged? Were the

impediments to implementation also the barriers to maintaining challenge? This is a topic for further study.

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Appendix A Data Sources

I. Observations

Observations	Time	What I Saw	Approximate Time
1/19/93	8:30 - 9:35	Options/Whole Group	1.0
1/26/93	9:10 - 10:30	Group/Math/Reading	1.5
2/5/93	1:30 - 2:45	Whole Group/Art	1.25
2/8/93	12:00 - 1:00	Reading/Lunch/Music	1.0
2/19/93	1:00 - 2:45	Trip to Art Museum	1.75
2/25/93	10:00 - 11:15	Reading/Recess/Math	1.25
3/4/93	9:15 - 10:15	Group/Spelling	1.0
3/17/93	8:30 - 11:15	Options/Group/Spelling/ Math/Jr. Great Books	2.75
3/19/93	2:00 - 2:45	Art	.75
3/26/93	1:30 - 2:45	Art	1.25
3/31	ALL------- DAY-----	--OBSERVATION----	6.5
4/26/93	ALL----------DAY--	--OBSERVATION--	6.5
		SUBTOTAL	**26.5**

II. Board Meetings

Date	Time	Approximate Hours
1/28/93	7:10 - 9:30 PM	2.0
2/18/93	7:00 - 10:00 PM	3.0
3/25/93	7:00 - 10:00	3.0
4/15/93	7:00 - 9:30	2.5
	SUBTOTAL	**10.5**

III. Curriculum Meeting

2/19/93 7:00 - 10:00 3.0 hours

IV. Other Meetings - Total 8.5 hours

- Response to IRS Letter - Write Curriculum for IRS
  3/16/93 7:00 - 10:00 3.0 hours
- Teacher Selection Committee Meeting
  3/22/93 7:00 - 10:00 3.0 hours
- Parent Night
  4/20/93 7:00 - 8:00 1.0 hours
- Open House
  4/29/93 5:30 - 7:00 1.5 hours

V. Interviews

Person	Date	Time	Place	Approx. Hours
2nd grade male	3/4/93	8:50 - 9:15	School	.5

2nd grade female	3/6/93	5:10 - 6:00 PM	Her House	1.0
2nd grade male	3/17/93	8:30 - 9:10	School	.75
3rd grade female	3/27/93	1:00 - 1:40	Her house	.75
Teacher	3/27/93	3:45 - 4:45	My House	1.0
Curriculum Chairperson	3/28/93	2:00 - 3:00	His House	1.0
Head Teacher	3/31/93	3:15 - 4:15	School	1.0
			TOTAL	**6.0**

VI. Documents

A. Board Meeting Minutes:
9/24/92
10/15/92
11/5/92
12/3/93
1/19/93
2/18/93
3/25/93
4/15/93

B. Curriculum Committee Documents:
Electronic mail messages that deal with curricular issues
Information related to Units (i.e., Astronomy Units: The Solar System)
Teacher Reports to the Committee
Art Specialist Lessons
Schedule
Computer Evaluation
Curriculum Contracts
Teacher Evaluations
Program Evaluation Summary
Sample Worksheets

C. Electronic Mail Messages - 145 pages of printed electronic mail messages, about half are related to curricular issues.

D. Teacher Newsletters
1/29/93
2/1/93
2/5/93
2/11/93
2/26/93
3/5/93
3/19/93
4/2/93
4/6/93

E. Brochure

F. Handbook For Families (14 page document)